

SECRET

MONTHLY REPORT

25X1

PAR 223

10 July 1964

SUBJECT: Monochromatic Lens System

TASK/PROBLEM

1. To explore the possibilities of the improvement of the optical systems by restriction of the wavelength range of the lens correction.

DISCUSSION

2. Consideration of means to do this task produced the idea to compare "monochromatic" and the "color-corrected" lens groups being designed in Phase 1 of PAR 202 and PAR 224. In these projects, two groups of six lenses each are being designed for identical field angle, object-image distance, and magnification values. One group will be corrected for a narrow band of blue light at 4600 A. The second group will be corrected for, effectively, the full visible spectrum. A minor amount of additional data for these designs and its organization for reporting should indicate the gain to be obtained by wavelength range reduction in lens designing.

3. There is good reason to test the possibility of designing a 6 to 60X zoom projection lens for monochromatic light as a development project. As stated in the 1 June 1964 report on PAR 223: "It appears that for a definite amount of effort, the feasibility of achieving the required image quality can be determined. The likelihood of achieving the required quality cannot be predicted before completion of such a study." It is felt such a design would be of general use to the community. In view of this it is suggested that a separate PAR be considered to investigate and test the possibility of designing a 6 to 60X zoom projection lens for monochromatic light.

PLANNED ACTIVITY

4. In view of the conditions outlined in Paragraphs 2 and 3 above, separate proposals are being prepared and will be submitted in the near future for consideration unless the customer indicates a lack of interest. Suggested proposals will be as follows:

a. Monochromatic Lens System investigation, PAR 223.

b. Zoom (6 to 60X) Projection Lens for Monochromatic Light,
PAR no. ~~not assigned.~~

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GROUP 1
Excluded from automatic
downgrading and
declassification